

Hawai‘i Island Birding Trail Interpretive Master Plan

7/31/17

Prepared by



With input from members of the
Hawaii Island Birding Trail Planning Committee

Jackson Bauer
Pat Hart
Alex Wang
Noah Gomes
Debbie Anderson
Rob Pacheco

Table of Contents

1.0 HAWAI'I ISLAND BIRDING TRAIL.....	3
1.1 INTRODUCTION.....	3
1.2 ADMINISTRATIVE OVERVIEW	4
1.3 PURPOSE OF THIS PLAN	5
1.4 DEFINITIONS AND TERMS USED IN THIS PLAN	6
1.5 DESCRIPTION OF PROJECT AREA.....	6
1.7 AREAS OF CONCERN.....	9
2.0 LONG RANGE PLANS.....	13
2.1 POTENTIAL FOR EXPANSION.....	13
2.2 EXPANSION CRITERIA.....	13
2.3 LONG-TERM GOALS AND IMPACT OBJECTIVES	14
3.0 INTERPRETIVE APPROACH FOR COAST TO COAST ROUTE.....	16
3.2 OUTCOME OBJECTIVES.....	23
3.3 THEMATIC GUIDELINES.....	23
3.4 MAXIMIZING HIFB SUPPORT FOR HAWAI'I ISLAND BIRDING TRAIL.....	26
3.6 SUMMARY OF PROJECTS, IMPLEMENTATION COSTS, AND POTENTIAL PARTNERS	36
3.7 OTHER POTENTIAL PARTNERS.....	37
3.8 RECOMMENDED ACTION PLAN	37
APPENDIX A – 2016 PLANNING CHARETTE PARTICIPANTS.....	39

1.0 Hawai‘i Island Birding Trail

1.1 Introduction

Although Hawai‘i abounds with hiking trails and opportunities for viewing birds, it is one of the few states without a designated birding trail. In 2015, a small group of committed individuals met to discuss the potential for establishing a birding trail on Hawai‘i Island. This was not the first time the idea had been discussed, but it was the first time that experts in Hawai‘i Island tourism, destination marketing, biology, nonprofit management and interpretive planning comprised the discussion group. That discussion led to the development of a concept for establishing the Hawai‘i Island Birding Trail in conjunction with a Festival of Birds, the proceeds of which would support planning, development, and maintenance of the Trail’s interpretive efforts. The initial steering committee was enlarged to continue planning the Festival while an even larger group of stakeholders with representatives from a number of governmental, private, nonprofit, and other interests met in April 2016 for a half-day planning charrette to discuss the status of the Festival and the potential for finding or establishing a long-term management entity for the Trail (see Appendix A).

While planning continued for the Festival with the involvement of the full Festival committee, planning for the Trail was put on hold until determination of the management entity and funding would allow completion of an interpretive master plan. Just prior to the first annual Hawai‘i Island Festival of Birds (HIFB) September 25-26, 2016, Hawai‘i Department of Land and Natural Resources (DLNR), Division of Forestry and Wildlife (DOFAW) stepped forward to take a leadership role as the long-term management entity for the Trail. The successful 2016 Festival provided funding for this plan to be completed in 2017 in conjunction with a planning committee selected by project manager, Jackson Bauer (DOFAW).

During the 2017 planning meetings, the initial concept for the Trail was modified somewhat and the name of the trail changed to Hawai‘i Island Birding Trail (HIBT). While the Coast to Coast route will be the first to be recognized and developed, it will be treated as one portion of the network of routes that will ultimately make up the HIBT.

1.2 Administrative Overview

1.2.1 Managing Entity

DLNR has agreed to be the managing entity of the Trail under the auspices of DOFAW's Nā Ala Hele program. This program, established in the Nā Ala Hele Program Plan (1991), suggests that "Nā Ala Hele seeks to develop a trail and access network and management system which (1) provides a broad range of recreational, cultural, religious, and subsistence opportunities for all of Hawai'i's people, and (2) helps to conserve Hawai'i's cultural heritage and environment. Simply stated, Nā Ala Hele wants to ensure adequate public access to coastal and mountain areas consistent with sound conservation principles."

1.2.2 Trail Purpose

While the HIBT's purpose of inspiring awareness, understanding, and protection of Hawai'i Island's natural heritage certainly dovetails with the vision established for Nā Ala Hele, the concept of a birding trail, as a designated route that includes multiple locations rather than one specific physical trail, provides an opportunity to expand the traditional view of trails currently administered by this program in accordance with Goal IV of the 1991 plan, "to study a variety of options and approaches to expanding the trail and access network."

The 1991 plan recommends an update every five years, however, as of this writing in 2017, no update to this plan has been completed. Perhaps when an update is completed, the concept of a birding trail may be included as a specific type of trail along with the other four designated trail types: urban, rural, wildland, and sensitive.

1.2.3 Funding

To assist DOFAW in their role as manager of the HIBT, the HIFB committee has committed a portion of annual Festival proceeds to the support of planning, research, and production and maintenance of selected interpretive products (see Section 3). That funding source can serve as matching funds to leverage other sources of funding through grants, donations, and other partners. Product sales, managed by HIFB, can also help support the HIBT.

1.2.4 Partners

Consistent with the Nā Ala Hele program, HIBT requires partnership with multiple entities. While all of the individual hotspots designated for inclusion on this trail are currently on public lands, not all are under the management of DOFAW, and some are immediately adjacent to privately owned or managed properties. It will be necessary to work with each of the partners to determine

whether recommendations made in this plan are acceptable, even if funding is provided by HIFB. Current partners will need to include:

- National Park Service (Kaloko-Honokohau National Historical Park)
- Natural Energy Labs of Hawai‘i (access to Keahole Point)
- Hawai‘i County (Carlsmith County Beach Park)
- State of Hawai‘i Highway Department (highway signs and pulloffs)
- Hawai‘i State Parks (Wailoa River State Park)
- Nakagawa Family/Seaside Restaurant (Lokowaka Pond)

1.3 Purpose of this Plan

In 2017, Heartfelt Associates was contracted by the Hawai‘i Island Festival of Birds to expand the original concept paper for the Hawai‘i Island Coast to Coast Birding Trail into a more comprehensive master interpretive plan for that initial route of the proposed HIBT. The planning process included reference to the original concept paper and notes from the 2016 planning charrette, along with input from a planning committee headed by DOFAW and further research and recommendations by Heartfelt Associates. This plan is intended to provide recommendations to DOFAW and HIFB for improvements to the Trail concept with the understanding that DOFAW is under no obligation to accept or implement any of the recommendations contained herein. This plan is not intended to serve as a master plan for all Nā Ala Hele trails nor is it written to include all potential user groups of that trail system. It is intended to focus on establishment and use of a birding trail by those who have a casual or earnest interest in learning more about and viewing the island’s bird life, however, it should be noted that other trail users (general recreationists and hunters, for example) and the overall Nā Ala Hele program may also benefit from the recommendations in this plan.

This interpretive master plan is presented in three parts. The first section provides context for understanding the Trail concept and the relationships of the entities involved in its further development and management. The second section is intended to provide guidance for the potential expansion of the Trail or the establishment of a network of birding trails in the future. The final section suggests specific objectives and projects (along with potential partners to support those projects) that might be considered to interpret the Trail and its related stories. Section 3.0 should be considered an overview for development of interpretive projects along the Coast to Coast route of the HIBT. Production details of individual projects (such as graphic design or text) are beyond the scope of this contract.

1.4 Definitions and Terms Used in this Plan

DLNR - Department of Land and Natural Resources

DOFAW - Division of Forestry and Wildlife

Festival or HIFB - Hawai‘i Island Festival of Birds

NELHA - Natural Energy Labs of Hawai‘i

hotspot (lower case) - any location designated along the HIBT as a birding area

Trail or HIBT - Hawai‘i Island Birding Trail

trail (lower case) - any individual trail at a location along the designated route of the HIBT

UH-Hilo - University of Hawai‘i, Hilo

1.5 Description of Project Area

Imagine a trail spanning the Island of Hawai‘i from the eastern shoreline to the western shoreline that passes through a national park, includes ancient Hawaiian pathways, archeological sites, historic sites, upland pastures, rainforest, dry forest, sub-alpine shrubland, barren lava fields, volcanic vents, Hawai‘i’s longest river, ponds, and an estuary. Imagine that trail rising from sea level to 7,000 feet and back again to sea level while traveling the boundary of the two tallest mountains on earth. Imagine that trail passing through desert climate with a few inches of rain annually and later through tropical rainforest with nearly 300 inches of rainfall a year. Imagine that trail’s diversity of landscapes and climates matched by the diversity of birds: endangered waterbirds and forest birds, migratory waterfowl and shorebirds, including nēnē, Hawai‘i ‘amakihi, ‘ōma‘o, Hawai‘i ‘elepaio, ‘apapane, ‘i‘iwi, ‘io, ‘alae ke‘oke‘o, ae‘o and pueo, and numerous established non-native species from five continents.

The Coast to Coast route of the Hawai‘i Island Birding Trail is a concept for a 90-mile cross-island route between Kona and Hilo. Patterned after the many successful birding trails in the continental United States, it will link a remarkably varied set of locales featuring a broad representation of island birdlife, nature, geology, history, and scenic vistas and linking a national park, a state park, a county park, several forest reserves, several public trails, and local businesses. The route generally runs from Kaloko-Honokōhau National Historical Park in Kona up Hina Lani Street to Highway 190 to Route 200 (the old Saddle Road) to the Daniel K. Inouye Highway to Waiānuenue Avenue in Hilo via Kaūmana Drive to Kamehameha Avenue and finally to Lokowaka Pond off Kalaniana‘ole Avenue. Because the route consists of a network of birding hostspots rather than a physical linear trail, users can join or leave the route at any point along the way, and can participate on their own rather than having to join a commercial tour to enjoy the various hotspots. In fact, only a few of the hotspots will allow use by commercial tours and activities so the HIBT will

provide a no-cost opportunity for residents and visitors to identify and enjoy areas they might otherwise miss, while at the same time providing a branded experience that will draw the attention of a tourism market beyond the more widely known ocean or volcano based activities.

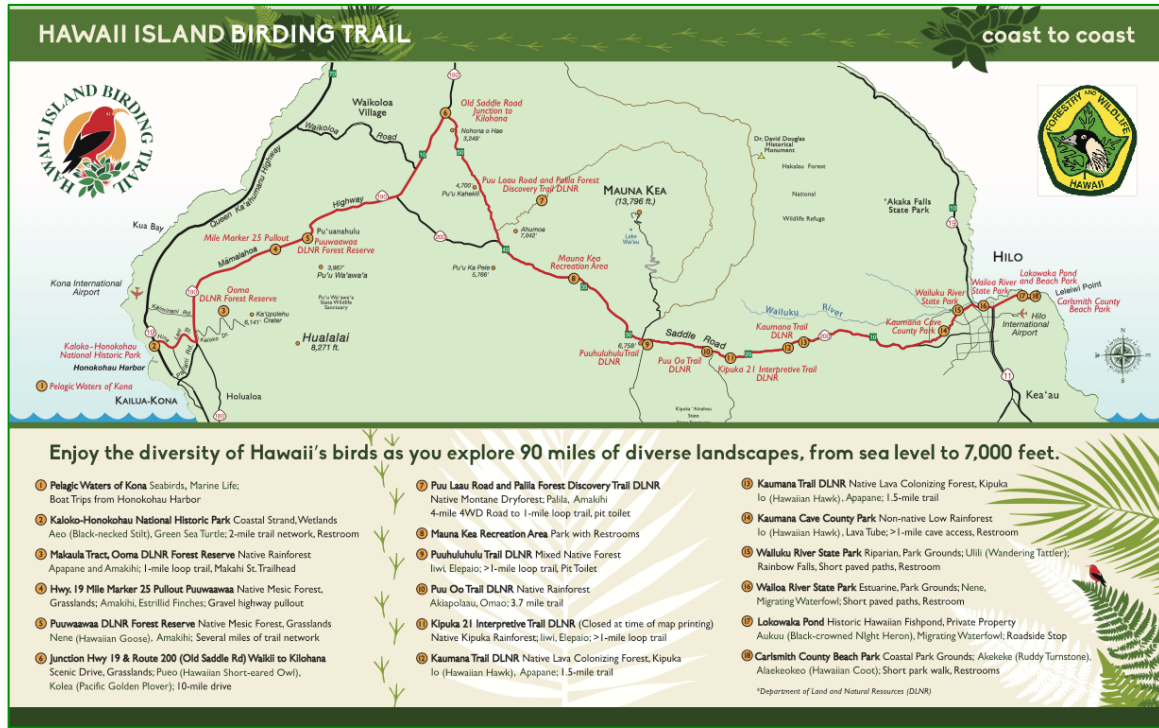


Figure 1. Original route and hotspots for the Trail provided on a print map to participants at the 2016 Hawai'i Island Festival of Birds.

1.6 Audience Analysis

While there may be only a few hundred people in the state who would consider themselves hard-core birders, some tourism studies estimate that over 42 million people have an interest in watching birds when traveling. According to a U.S. Fish and Wildlife Service study, birdwatchers contributed \$36 billion to the US economy 2006, and one fifth (20%) of all Americans are identified as birdwatchers. With the 2016 inclusion of Hawai'i as a legitimate birding destination by the American Birding Association and establishment of the annual Hawai'i Island Birding Festival, the number of residents and visitors who are aware of and interested in seeing and protecting the island's birds is expected to grow.

Development of the HIBT is expected to target the following audiences:

1. Residents of both sides of the island with a casual desire to experience the wild and natural resources of their island home (referred to in this plan as “residents”). This group may have a general interest in birds and birding, but will be looking more for recreational opportunities to get out in nature with information about the birds as an incidental part of the experience. Their inherent interest in learning more about and protecting the place they live may influence their participation in activities and appreciation of interpretation along the Trail. Materials written specifically for this audience should adhere to the general guideline of 8th grade reading level, avoiding scientific terms unless those terms are fully explained. Common names of birds and plants will be most appropriate for this group.
2. Avid birders and nature tour groups in search of Hawai‘i’s wildlife (referred to in this plan as “avids”). This group is likely to have a specific interest in birds and birding with some existing knowledge of the island birds, and will likely be interested in deeper layers of information and specific sighting opportunities. Materials written specifically for this audience should adhere to the general guidelines of 12th grade reading level, with some common scientific terms used. ABA common, local, and scientific names of birds and plants will be appreciated by this group.
3. Casual nature enthusiasts visiting the island (referred to in this plan as “tourists”). This group mirrors the resident group in level of interest, but since they will be here for a short time only, they are less likely to have a specific interest in protection of natural areas. They are more likely to purchase products as souvenirs and have high potential for return visits or deepening interest. Materials written specifically for this audience should adhere to the general guideline of 8th grade reading level, avoiding scientific terms unless those terms are fully explained. Common names of birds and plants will be most appropriate for this group.
4. Island students in kindergarten through university (referred to in this plan as “students”). This group differs from the other three in that they are essentially a “captive” audience. They are not necessarily making a choice to learn more about island birds or nature, but are likely to respond well to using birds and nature study as a way to introduce and learn more about traditional school subjects. Materials written specifically for this audience should adhere to reading levels appropriate to the targeted student age.

Demographically, these targets span a wide range of individuals, from *keiki* to *kupuna*, with cultural roots around the world. Residential census (last recorded in 2010) indicated an island population of 185,000, made up of 35% Caucasian, 23% Asian, 12% Hawaiian/Pacific Islander and 12% Latino. 29% identified as being from two or more races. Visitation to the island (according to Hawai‘i

Tourism Authority reports) in 2015 added approximately 1.5 million people on the island throughout the year (of which less than a third were international visitors). Repeat visitors represented almost two-thirds of the total, and two-thirds travel independently (not with a group tour or package).

This information is helpful in understanding what approaches might be most successful in interpreting the natural and cultural resources along the HIBT. The high number of repeat visitors to the island indicate that many visitors already have a strong connection to the island and certainly, those who live here have an interest in better understanding their surroundings. That connection can be encouraged as both residents and visitors begin to think of the island as a place to explore birding as an outdoor recreation option. Targeting certain interpretive products to specific market segments rather than attempting a “one size fits all” approach to every product will help ensure that appropriate messages are being used in the most effective ways.

It will be important to remember that not everyone who lives here, whether Native Hawaiian or not, already appreciates or even knows that some birds are native while others are introduced nor do they know the names of birds or what ecosystems are necessary to support them. Informal interviews and observation of people (both residents and visitors) on trails, beaches, and around towns indicate that even when there is an existing lack of knowledge, there is almost always a desire to learn more. Interpretive information, couched in optimism that people can help protect this fragile island environment, may help bridge both residents and visitors from curiosity to caring for birds and the areas they need to survive.

1.7 Areas of Concern

The establishment of a designated birding trail carries with it some concerns, however most of these concerns can be mitigated to some extent.

1.7.1 Trespassing

Birders, by the very nature of birding, want to get the best views of the birds that have caught their attention. Since birds have no respect for fences, birders will also sometimes ignore fences in pursuit of the best vantage point for observation. Parker Ranch is one of the areas that currently experiences problems with trespassers and while the staff is supportive of the concept of a birding trail, they have expressed concern about creating any pull-offs or pointing out features that might inadvertently encourage trespassing. In some places, the hotspots are adjacent to Kamehameha Schools properties and linkages between trail systems may not be desirable.

Recommendation: *Ethics will be an important part of any messaging and needs to extend beyond the trail itself to reach the broader tourism market to encourage good behavior by visitors to the island. Private landowners along the route should be contacted to participate in development of and review of interpretive materials to ensure that adequate and appropriate warnings about trespassing and respect of private property are included.*

1.7.2 Roadside stops and parking

Birders tend to pull off the road and park immediately wherever they see a bird, not in a designated lot where they might walk to where the bird is (or was). During the dry season especially, this can create both a fire hazard and a traffic safety issue as many of the roadways in Hawai'i lack sufficient paved or gravel shoulders to park safely.

Recommendation: *Any pull-offs or parking areas that are added will require County and/or State involvement and approval to ensure that all appropriate regulations and adequate structure for the amount of traffic is provided. If pull-offs are added, they provide an opportunity for interpretive signs that could emphasize safety and trespass concerns.*

1.7.3 Increase in traffic to remote areas

It is difficult to project how the promotion of a designated birding trail will affect the number of people who travel to the island specifically to see birds or the number of residents who make more of an effort to get to areas they may not have known were accessible for this activity. However, a significant increase (more than a thousand per year) could have detrimental effects on road and trail conditions, particularly in more remote areas that may or may not receive regular maintenance.

Recommendation: *Establish a reasonable method for long-term monitoring of road and trail condition as well as tracking numbers of users who are specifically engaged in birding as a percentage of other recreational activities. This may include, but is not limited to, visual inspection of roads and trails, adding a checkbox to hiker registration paperwork at trailheads, conducting parking area surveys, tracking the number of participants at the annual Festival and hits on the website, reviewing ebird.org data, and polling private tour companies and guides who take visitors on birding tours. Over the course of several years, this information should provide a profile of who uses the Trail as well as establishing a correlation, if any, to deterioration of roads and trails or depreciative behavior such as littering or vandalism. Whatever method is used to monitor numbers of birders and other recreational users on the Trail, it should be evaluated with regularity by the same entity to provide consistency and comparative values.*

1.7.4 Compatibility of multi-use areas

Some portions of the Trail are associated with public Game Management Areas that allow hunting, potentially putting birders at risk.

Recommendation: *Birders must be made aware of the risks and encouraged to wear brightly colored clothing in these areas.*

1.7.5 Rapid ‘Ōhi‘a Death and invasive species

In addition to the inherent concerns about the potential to lose native trees and habitat areas due to ROD or invasive species, some points along the trail may need to close temporarily or permanently while actions are taken to minimize the spread of these problems.

Recommendation: *Enlist the aid of birders in mitigating these issues with information about how to avoid the spread of ROD.*

1.7.6 Continued funding

Most of the recommendations in this plan have no earmarked funding at this time. While Festival proceeds can generally be used to conduct appropriate research or produce and maintain interpretive products, other sources of funding will be necessary from time to time.

Recommendation: *Partnering with other entities with matching funds (see Section 3) rather than providing full funding might be a desirable strategy for the Festival committee to extend available funds.*

1.7.7 Cultural recognition and respect

Hawai‘i is host to tourists from around the world, with a diverse community of residents from many cultures, but it also has a native culture of its own that must be recognized and respected. This is particularly appropriate given the strong connections Hawaiians have had with birds and their forest homes.

Recommendation: *Interpretive materials should be bilingual (English and Hawaiian with Hawaiian taking precedence) whenever possible, using appropriate diacritical marks. Hawaiian cultural stories appropriate to the themes established for the Trail should be an integral part of any interpretation, with special attention paid to accuracy in any stories related to birds as ‘aumakua, bird catching and feather work. These stories should be written by Hawaiians, as they are their stories to tell. Identification of birds should consistently be listed as follows: Hawaiian common name (American Ornithologists’ Union [AOU] common name [if different], Scientific name), except on materials targeted to audiences who do not need the level of detail provided by scientific names. In those cases, the Hawaiian common name should be followed only by the AOU common name in parentheses, if different.*

1.7.8 Confusion with connotation of “trail”

The use of the term “birding trail” is common in the United States, and is easily recognized in the birding community. However, many people unfamiliar with this term tend to think of a trail as a way to travel on foot from one place to another and may therefore expect the HIBT to provide a 90-mile hiking trail across the island rather than a collection of birding hot spots.

Recommendation: *Since the HIBT is essentially a collection of birding hot spots, some with hiking trails, some without, using the term “route” may represent the experience more accurately. This term is used routinely in other countries such as South Africa, Australia, and Colombia where birding is also popular. However, since the term “birding trail” is routinely used in the United States, being consistent with that construct has some perceived value. Perhaps the best solution here is to use “Birding Trail” for the overall name, with specific “routes” identified for different loops or legs that could traverse a geographical area of the island(s). This nomenclature should in no way affect any other aspect of the Nā Ala Hele program.*

2.0 LONG RANGE PLANS

2.1 Potential for Expansion

As part of the Nā Ala Hele program, the Trail concept could be expanded in the future by:

- a) adding new hotspots to HIBT, such as Kipuka 10 (currently under development by The Nature Conservancy in cooperation with UH-Hilo);
- b) adding new routes to create a birding or nature trail network on Hawai‘i Island; and/or
- c) creating routes on other islands using the model and interpretive guidelines established by the HIBT.

While DOFAW is supportive of the concept of future expansion, it is important to note that the commitment of the Festival committee to support of the Birding Trail is, at least initially, limited to the Coast to Coast route, so any expansions of new routes or on other islands may need to find additional means of financial support. Interpretive recommendations in this plan are therefore limited to the Coast to Coast route of the HIBT.

The HIBT’s first five years will likely see the most activity in terms of production of interpretive features along the Coast to Coast route. The first five years will also provide the opportunity to establish monitoring and evaluation procedures based on stated objectives. Those preliminary results can be used to help DOFAW determine its desire or priorities for expansion.

2.2 Expansion Criteria

Developing criteria for adding hotspots to an existing or proposed birding or nature trail will help in setting priorities for the wisest use of available resources. At a minimum, a scorecard could be prepared with the following criteria to help decision-makers determine whether a hotspot should be added to the existing route of the Coast to Coast Trail or whether a new trail should be considered on Hawai‘i or other islands:

- a. Species commonly seen
- b. Other points of interest

- c. Availability of access (who is the landowner/manager)
- d. Availability of parking
- e. Sources of financial support for interpretive development or maintenance
- f. Uniqueness of experience (does the proposed hotspot or trail substantially duplicate that already provided by HIBT)
- g. Potential audience (will the proposed hotspot or trail encourage new target audiences to engage in birding activity)
- h. Potential hazards or risks

Once these criteria have been explored and the hotspot is determined to be of interest, it should be incorporated into the existing route (perhaps necessitating changes to any print or digital materials that have been prepared) or a new route should be proposed.

If a new route is proposed, landowners/managers along the route should be brought into the process to ensure that objectives of all partners can be met. Although the thematic guidelines and media recommendations in this plan (see Section 3) can serve as an overarching framework for developing interpretive materials, it may be necessary to refine a more specific plan for additional routes, particularly if they are located on other islands.

Potential routes for consideration on Hawai'i Island might be a short northern route (Kapa'au), a longer northern route (Waipi'o and Honoka'a), or a southern route (Highway 11 from Hilo to Kailua-Kona including Hawai'i Volcanoes National Park). All three of these routes can be easily extended from the existing HIBT to create a larger trail network on the island by adding one at a time as funds allow. Effort should be made to look for opportunities to include microclimates or habitats with bird life unique to those areas to provide the highest quality experience for birders.

2.3 Long-term Goals and Impact Objectives

The goals of the HIBT are to:

1. Broaden Hawai'i Island's brand as a birding and ecotour destination beyond ocean and volcano based activities.
2. Provide focus and incentive for west side residents and travelers to explore the less frequented east side, and encourage east side residents and travelers to explore the west side.

3. Provide opportunities for visitors and residents to enjoy, learn more about, and protect Hawai‘i’s unique natural and cultural heritage.

If the HIBT concept is successful, it may result in positive long-term impacts such as:

1. Increased containment of Rapid ‘Ōhi‘a Death and other invasive species or pests.
2. Increased awareness of and appreciation for island biodiversity.
3. Greater availability of funding for support of HIBT hotspots.
4. Increased use of trails by birders with a corresponding decrease in depreciative behavior.
5. Improvement and expansion of trail-related partnerships.
6. Expansion of HIBT concept onto other Hawaiian islands.

Periodic surveys of island residents and visitors (perhaps undertaken by University of Hawai‘i-Hilo graduate students) will establish baselines and any changes in attitudes, beliefs, and behaviors related to the trail, helping to track progress towards any stated objectives that is not readily apparent otherwise.

3.0 INTERPRETIVE APPROACH FOR COAST TO COAST ROUTE

3.1 Hawai‘i Island Birding Trail Hotspots

The original concept for the Coast to Coast route contained 18 hotspots. As part of this planning process, each of the 18 locations along the HIBT were visited and assessed for interpretive potential as follows, with the result that some locations were eliminated, some new hotspots were added, and some hotspots were combined into one stop. The following 13 hotspots (as of this planning process) comprise the end result:

3.1.1 Open Ocean

Species of Interest: various seabirds, marine mammals

Ecosystem: pelagic waters

Amenities: dependent on boat used

Ownership/Management: varied

Current Situation: Potential for various boat tour operators, harbor businesses, and harbor (managed by DLNR, Division of Boating & Ocean Recreation) to be included as partners. Numerous sites around the harbor (restrooms, restaurants, shops, tour operators) could provide outlets for interpretive products.

3.1.2 Keāhole Point

Species of Interest: various seabirds, marine mammals

Ecosystem: Open ocean, lava coastline

Amenities: paved road with shoulder parking, short walk to point

Ownership/Management: access through NELHA

Current Situation: NELHA maintains a visitor center and education director, whose function is to inform the public about the various ventures that make up the NELHA complex. West Hawai‘i Explorations Academy maintains a public charter school for secondary students, and NELHA offers an internship program. While there is not currently any specific location from which to view birds or marine mammals from shore, there is potential to establish an easily accessible viewing area, which would encourage those residents who are unable to afford a commercial boat option for viewing ocean birds.

3.1.3 Kaloko-Honokōhau National Historical Park

Species of Interest: Ae‘o, honu, migratory waterfowl, shorebirds

Ecosystem: Coastal strand, wetlands

Amenities: 2-mile trail network, restroom, visitor center with gift shop

Ownership/Management: National Park Service

Current Situation: Existing kiosks, visitor center and interpretive trail offer opportunities to augment the NPS messages with information about the HIBT and its significance in relation to the park. The theme of the interpretive trail



Figure 2. Interpretive trail sign at Kaloko-Honokōhau National Historical Park.

signs explores the spirit that moves through the people, the land, the water, and the other resources of the park. This seems like a good fit for an additional interpretive sign about the spirit of the bird life here, however, NPS design guidelines are strict and would need to be followed on any additional trail signage, even if paid for by HIFB funds. The gift shop already sells a number of

bird-related products including videos, books, and gift items. It may be possible

to approach some of the creators of those products to see if a portion of sales could be contributed to the support of HIBT rather than creating similar, competitive products.



Figure 3. Entry kiosk at Kaloko-Honokōhau NHP. HIBT information could be inserted into the left hand side.

3.1.4 Honua‘ula Forest Reserve, (O‘oma)

Species of Interest: ‘Apapane, ‘amakihi, i‘o

Ecosystem: Native rainforest

Amenities: 1-mile unpaved loop trail, on-street (end of cul-de-sac) parking, kiosk

Ownership/Management: DLNR (DOFAW)

Current Situation: This area sees moderate to heavy use by residents due to its proximity to the houses on and around Kaloko Road, however it is not easy to find as there are no signs from the road directing people to it. Dog walkers, trail runners, parents getting young children out for a walk in the woods, and birdwatchers were all observed on the trail. Tagging is apparent on rule signs and the kiosk, which is not being used as effectively as it could be. Social trails



Figure 4. Graffiti vandalism at trailhead.



are apparent in addition to the main loop trail. There is high potential here for improved interpretation and experience given the existing conditions, and also potential for future development of the site to encourage more responsible use of the property by island residents. Although this hotspot offers an excellent opportunity to see native forest birds easily, increased use by island visitors may or may not be desirable, given the proximity to residences.

3.1.5 Pu'uwa'awa'a Halapepe Trail

Species of Interest: nēnē, 'amakihi, estrillid finches, gamebirds

Ecosystem: Native mesic forest, grasslands

Amenities: Hunter/hiker check-in stations (2), pit toilets, trail network extending throughout forest reserve (Halapepe and Cinder Cone trails marked with interpretive brochures provided)

Ownership/Management: DLNR (DOFAW)



Figure 5. Entry gate at Pu'uwa'awa'a as seen from highway.

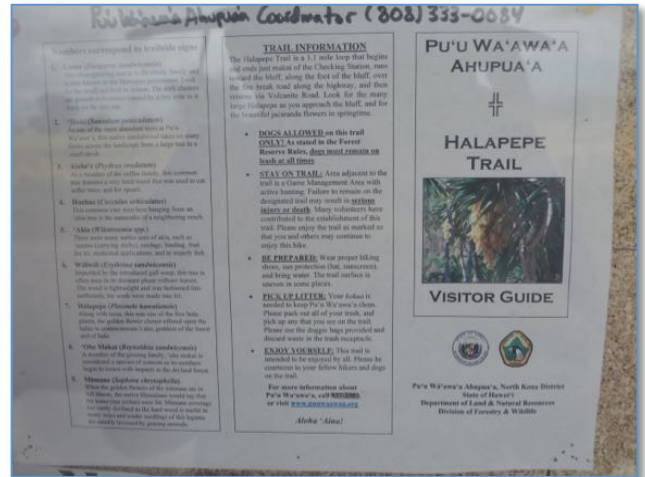


Figure 6. First check-in station could be used as interpretive station. Current brochure is provided in “mailbox” and tacked onto the bulletin board.

Current Situation: The entrance to this hotspot is fairly obvious from the highway, but it is gated (unlocked during open hours) which can be a deterrent to those who do not already know that it is publicly accessible. An informational brochure about native plants on the Halapepe Trail is available at the first check-in station, but the trail it refers to begins *mauka* of the check-in station, not *makai* as the brochure states, so it can be difficult to find. The brochure and the trail need updating and maintenance to be useful, as many of the plants noted in the brochure are no longer easily seen or differentiated from other plants that have grown up around the trail markers. Both check-in stations offer potential as backdrops for interpretive materials, but some tagging was noted. Hunting area creates some potential hazard for birders.

3.1.6 Old Saddle Road

Species of Interest: pueo, kolea, wild turkey, gamebirds

Ecosystem: Grasslands

Amenities: Scenic drive

Ownership/Management: Hawai'i Department of Transportation

Current Situation: One of the best locations for seeing pueo and ground dwelling birds, but also one of the most dangerous, as there are few areas to pull off the road safely without blocking a road or driveway or creating a fire hazard. Residents along this road complain of trespassers crossing fences to hike cross-country.

3.1.7 Palila Forest Discovery Trail

Species of Interest: Palila, ‘amakihi

Ecosystem: Native montane dry forest

Amenities: Hunter/hiker check-in station, 4-mile 4WD road to 1-mile loop trail, pit toilet

Ownership/Management: DLNR (DOFAW)

Current Situation: Palila Forest Discovery Trail with four interpretive signs was created and is maintained by the Mauna Kea Forest Restoration Project. It is inaccessible without a 4WD vehicle, which somewhat limits its use. There is nothing to indicate the existence of the Palila Trail except a small sign outside the fence

(impossible to see at highway speed).

Interpretive signs tell the story of the palila and its relationship to the plants in this habitat. Hunting area creates potential hazard for birders.



Figure 7. Interpretive overview of Palila Forest Discovery Trail.

3.1.8 Pu‘uhuluhulu Trail

Species of Interest: ‘I‘iwi, ‘elepaio

Ecosystem: Mixed native forest

Amenities: pit toilet, hunter check-in station, boot cleaning station, parking area, interpretive signs



Figure 8. Check-in station.

Ownership/Management: DLNR (DOFAW)

Current Situation: Check-in stations offer an opportunity to reach hikers as well as hunters. The interpretive signs at this hotspot and elsewhere along Saddle Road (see photo below in 3.1.9) could be improved. Although they all have attractive photography, they are not thematic, contain some inaccuracies, and are poorly located.

Potential improvements to this hotspot include a family-oriented interpretive trail with signs (not necessarily focused on birding).

3.1.9 Pu‘u ‘Ō‘ō Trail

Species of Interest: ‘Akiapōlā‘au, ‘ōma‘o, i‘o

Ecosystem: Native rainforest

Amenities: 3.7 mile trail (one way), parking area, boot cleaning station

Ownership/Management: DLNR (DOFAW)

Current Situation: Some guidebooks list this trail as 3.7 miles, while others call it 7 miles. The official DLNR website (hawaii-trails.org) lists it as 3.7 miles in the general description, but then clarifies that as one way on the second layer of more detailed information. Consistency will help lessen confusion for trail users, although DLNR has no control over other published sources.

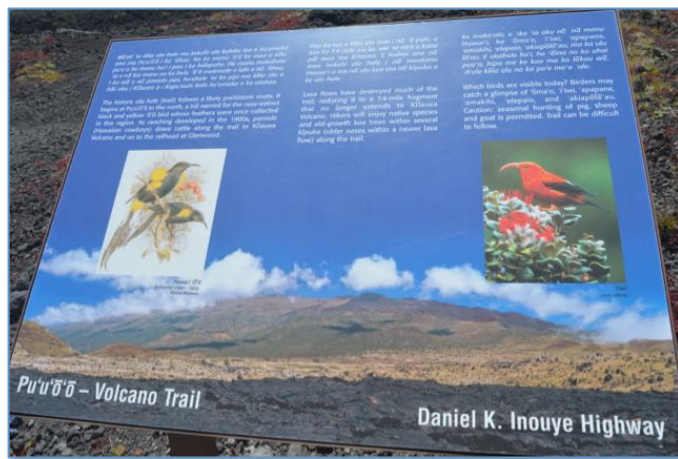


Figure 9. Interpretive sign (left) and boot cleaning station (right). This series of signs along the Daniel K. Inouye Highway lacks basic elements (such as a title and subtitles along with a thematic thread) that will attract and hold visitor interest.

3.1.10 Kalauna Manu Nature Trail

Species of Interest: ‘I‘iwi, ‘elepaio

Ecosystem: Native kipuka rainforest

Amenities: Off-street parking, restroom, interpretive panels, less than 1-mile loop trail

Ownership/Management: DLNR (DOFAW)

Current Situation: Closed while under development, formerly known as Kīpuka 21. Interpretive panels have been drafted and are almost ready for fabrication, but this area will likely remain closed for a year or more while restrooms and parking areas are built.

3.1.11 Kaūmana Trail

Species of Interest: ‘Io, ‘Apapane

Ecosystem: Native kīpuka, lava colonizing forest

Amenities: 1.5 mile trail, shoulder parking, interpretive sign about the main historic trails across the island.

Ownership/Management: DLNR (DOFAW)

Current Situation: Difficult to locate while driving at speed limit. Interpretive signs are somewhat confusing as to what distinguishes the 1.5 mile Kaūmana hiking trail from the historic trail that extends across the island.

3.1.12 Wailoa River State Park

Species of Interest: Nēnē, migrating waterfowl

Ecosystem: Estuarine

Amenities: Restroom, boat ramp

Ownership/Management: DLNR (Division of State Parks)

Current Situation: Several access points to a state park adjacent to the state managed waterway in Hilo. Parking area and restrooms by boat launch show substantial vandalism, tagging and litter.

3.1.13 Carlsmith County Beach Park/Lokowaka Pond

Species of Interest: ‘Auku‘u, ‘Akekeke, ‘Alae ke‘oke‘o, migrating waterfowl

Ecosystem: Coastal park grounds

Amenities: Restrooms, short park walk to shore, picnic pavilion, parking area, across the street from privately owned Lokowaka Pond (historic Hawaiian brackish fishpond)

Ownership/Management: County of Hawai‘i

Current Situation: Tagging evident at restroom and some existing sign damage although the park grounds are well-kept. The restroom building has a painted motif of ocean creatures, and the pavilion offers a nice overlook to the water’s edge. Perhaps more interesting is view of Lokowaka Pond across the street,



Figure 10. The park (left) and restroom (right). People who want to visit Lokowaka Pond will need to park here but parking is limited.

where a variety of migrating waterfowl and other birds can be seen. However, the pond does not offer any safe access for birders as it requires crossing a busy road, and the owners (who also run the adjacent restaurant) have concerns about trespassers who enter the property (portions are fenced) or create issues for those dining at the restaurant.

3.2 Outcome Objectives

Outcome objectives provide specific, measurable methods to evaluate progress towards impact objectives (see Section 2).

- 60% of HIBT trail users will be observed using boot brush stations when provided.
- Annual increase in participation at HIFB.
- No evidence of depreciative behavior observed or caused by birders (vandalism, litter, social trails, trespass).
- 90% of island school children will visit a hotspot along the HIBT before they enter high school.
- 60% of high school students will participate in a HIBT activity during their high school years.
- 60% of surveyed island residents will be able to correctly identify species as native or nonnative.
- 10% of hikers identify birding as a primary reason for using trail hotspots.
- 20% of surveyed island visitors identify birding as a reason for their visit.
- 50% of publishers and bloggers who mention trails on Hawai‘i Island will refer their readers to hawaiiitrails.org and/or represent accurate information in their published work.

3.3 Thematic Guidelines

A thematic approach to interpretation on the HIBT will provide guidance for content to help ensure that important messages are communicated. Strong

themes inspire trail users to think more deeply about the subject and studies show that this thought process can be the precursor to desired behavior changes.

The central theme is the overarching idea that can be communicated through a variety of means. If the interpretive media (products and programs) are effective, various audiences will respond to this idea during and after their visits, which can be tested through monitoring of outcome objectives (see Section 3.2).

Subthemes provide a way to group related storylines during the planning process to ensure that individual stories have a direct relationship to the central theme. Subthemes can be thought of as “chapters” that support the central theme. A strong subtheme could stand alone, but becomes even stronger when it has a relationship to the bigger idea suggested by the central theme. In some cases, interpretive media may focus on only one subtheme, so that the media can be targeted to a specific audience or subject matter, but all media choices should relate to at least one subtheme or should not be included in the plan.

Storylines are the individual threads that are used to reveal the central theme (or a specific subtheme). Some interpretive media may focus on only one storyline, but that storyline should be trackable to a subtheme, which in turn tracks back to the central theme. The number of storylines that could be told is perhaps infinite, but keeping them aligned with a subtheme (and hence the central theme) should help ensure that only those stories that are appropriate for this trail route are told as part of this interpretive effort. Some stories, while important and interesting, are better told in other ways in other places if they do not directly relate to the central theme.

The thematic guidelines recommended in this plan are specific to Hawai‘i Island. If additions to the HIBT or expansion on Hawai‘i Island are undertaken, this thematic framework should serve to keep the central theme in the forefront of trail users’ minds. However, if expansion to other islands is attempted, a different framework or additional subthemes may be necessary to address those islands’ specific stories.

With the central theme statement established below, the importance of the universal concept of change cannot be overstated. Hawai‘i Island’s story has always been one of significant change, from the volatile nature of its origins to shifting populations and land uses of the last hundred years. Nowhere are the changes more evident than in the birds of the island. They are indicators of the overall health of the native forest ecosystems and the specialized adaptations of the island’s endemic species are seen nowhere else on the planet. Even the diversity of nonnative bird species speaks of the influence of various cultures that have had impact on the land over several centuries.

The three subthemes can be summarized as looking at the scientific approach to birds, the conservation issues related to birds, and the cultural approach to birds. Because birds are part of nature, it is inevitable that the broader environment will be part of the story, but the focus for the Hawai‘i Island Birding Trail should remain birds. Simply stated:

Central Theme: Hawai‘i’s birds reveal the ever-changing nature of the island’s people and places.

Subtheme 1: Hawai‘i Island’s unique environment supports a unique population of birds.

Related Storylines:

- identification of native and nonnative species
- identification of habitats
- geological base for habitats
- overview of the coast to coast experience changes in elevation
- specific adaptations to specific environments
- where to find remnant examples of diversity
- honeycreepers as an example of adaptive radiation and extinction
- migrations (tie to migrant visitors)
- rich biodiversity and microclimates because 26 of 32 life zones found here
- pelagic life and interface with land life zones
- effects of climate change on bird life

Subtheme 2: A commitment to conservation can help to overcome a legacy of environmental challenges.

Related Storylines:

- what happened to things that arrived here
- changing times, changing landscapes
- current conservation issues (Rapid Ohia Death, etc.)
- forest restoration projects to preserve the remnants of what we have
- birds are indicators of forest health
- native forests still have native birds
- who are the people who work in conservation here
- how do you help keep birds and their habitats healthy
- what does the future look like for birds in Hawai‘i
- potential translocations of extirpated birds from other island populations
- reasons for bird population decline or absence and plans to combat it
- citizen science and ebird tracking

Subtheme 3: Hawai‘i’s birds connect its people to the natural world around them.

Related Storylines:

- Polynesian use of birds as navigation system
- Moorhens and bringing fire to people

- birdcatchers
- birds used for feathers and meat
- created fish ponds also provide habitat for birds
- correlation of bird zones with cultural zones (Western view and Hawaiian view)
- cultural use of forest products and relationship to birds (‘elepaio example)
- Hawaiian personification and perception of birds (birds as ‘aumakua, etc.)

3.4 Maximizing HIFB Support for Hawai‘i Island Birding Trail

HIFB proceeds are being earmarked to support HIBT on an ongoing basis. In some cases, this support may be adequate to fully fund a particular project while in others, it could be used as matching funds for additional support from other entities. Three areas related to the Trail that would benefit from HIFB support are research, restoration, and interpretation.

3.4.1 Research

There is a continuing need to study trail locations with regards to user data, biological conditions, and rediscovering cultural relationships between the location and the organisms that inhabit it. Studies, whether they are conducted in the field, through first-hand interviews, through literature review, or through online surveys, take time, personnel, and funds to develop, conduct, analyze, and report. Festival proceeds could be used to fund specific research projects or development and analysis of surveys related to the use and condition of the Trail (perhaps in conjunction with DLNR staff, contractors or graduate studies associated with UH-Hilo or other universities).

While the subjects of such research projects are virtually limitless, care should be taken to ensure that any research project has direct relevance to the Trail and its designated hotspots to qualify for HIFB support. Additionally, any research funded by HIFB should require that the principal investigator provide a clearly written summary of the findings to post on the HIBT website, in a style appropriate for the Trail’s target audiences, thereby creating another interpretive product. Some studies that might be considered would include (but are not limited to):

- Survey of trail users to determine existing attitudes, beliefs, behaviors related to wildlife watching (with emphasis on birds), with longitudinal comparisons to determine changes over time
- Effect of Rapid ‘Ōhi‘a Death on endemic species habitats
- Population density of endemic species

- Conditions of hiking trail/interpretive features (litter, vandalism, social trails, etc.) and changes over time
- Collection of oral histories related to cultural relationships to birds

3.4.2 Restoration

Where appropriate, restoring habitat to enhance bird viewing might be a good use of Festival funds. Projects would need to be coordinated with DLNR/DOFAW, and might use staff or volunteers already associated with groups such as The Nature Conservancy or Mauna Kea Restoration Project, but funding for materials, supplies, and equipment could be provided through HIFB proceeds.

3.4.3 Trail-wide Interpretation

The recommendations in this section are items that have relevance to the Trail route in general, rather than any specific species or location along the route. Cost estimates for planning, design, and fabrication/production costs suggested below assume that the work will be contracted out. They should be considered preliminary estimates only and do not necessarily include shipping or installation costs where applicable. Firm bids will need to be secured for all items during design development as choices of materials and sources will influence final costs.

3.4.3.1 HIBT Logo

Description: The logo for HIBT is an important interpretive feature as it will provide recognition and consistency between hotspots along the route as well as any print materials. It should clearly communicate the central theme through visual means, using graphic symbols, font, color, and image placement to help users understand that the Trail is more than just a landscape or individual species, but contains cultural connections as well as a conservation purpose. Using Hawaiian petroglyph symbols that generally represent birds may be more appropriate than the use of any one species to serve as a trail icon, since it would also emphasize those cultural connections. Silhouettes should be avoided since Hawaiian birds are not necessarily easily recognizable unless they are fairly generic (pueo, for example, has a recognizable owl shape). Font choice and color selection should evoke a sense of place, emphasizing the uniqueness of Hawai'i Island in accordance with Subtheme 1.

Target Audience: All

Thematic Emphasis: All subthemes

Objective(s): Annual increase in participation at HIFB.

Distribution Strategy: Used consistently on website, print materials, signs, and all other interpretive media.

Priority: High

Cost: Estimated at \$1500 to contract with professional logo designer or \$400 for logo design contest.

3.4.3.2 Website & App

Description: An interactive website with multiple functions (can also be designed as an app for mobile use). A map of the route should be featured on the landing page with each of the thirteen hotspots marked. Additional marks should indicate where public restrooms or other important features are available (such as Mauna Kea Recreation Area) along the route. Clicking on one of the thirteen hotspots should reveal additional information such as who manages the site, when it is accessible, a few of the most common species seen, and what amenities or hazardous conditions are found there. Additional layers of information can be added with stories of conservation and cultural significance about the area and birds found there. Links to more detailed descriptions, photos and sounds of birds along with links to events, donations (connected with HIFB website), ethics, partners, surveys, and other information can be added to the main menu. Curriculum materials, checklists, and other items can be added in the future as downloadable, printable pdf pages (see additional items below) as appropriate.

Target Audience: All

Thematic Emphasis: All subthemes

Objective(s): All objectives

Distribution Strategy: After a template is prepared by a contractor, DOFAW staff will maintain the website, accessed through their Trails.org URL.

Priority: High

Cost: Set-up contract (estimated \$10,000 for website; \$10,000 for app)

3.4.3.3 Trail route markers

Description: A trail route sign should be designed that can be used to help users understand where each “hot spot” is located along the way (see example photo). These signs should be suitable for placement along the roadways or at the entrances to each hotspot (in some cases, such as Kaloko-Honokōhau National Park, the sign may need to be inserted or affixed to an existing structure rather than mounted separately due to partner regulations or desires). The logo used on the sign should be recognizable as a visual identifier for the trail route, consistent with all printed material and the website so that one image uniformly represents the trail route, lessening confusion for the user. If necessary, other partner logos could be added to the sign, but should be kept small so that the trail logo takes precedence and is easily seen. If desired, elevation at the various locations where the markers will be installed could be added to provide an additional layer of information that



Figure 11. Sample of birding trail highway sign.

corresponds to further interpretation on the website or any interpretive signs provided at individual hotspots. Care should be taken in selection of materials for these signs as they must withstand the elements across the breadth of the island.

Target Audience: All

Thematic Emphasis: Logo should be a visual representation of central theme

Objective(s): 10% of hikers identify birding as a primary reason for using trail hotspots; 20% of surveyed island visitors identify birding as a reason for their visit.

Distribution Strategy: Each “hot spot” identified along the route

Priority: High

Cost: \$15,000 (signs and installation posts as needed with one set replacements)

3.4.3.4 Printed Checklist

Description: A checklist of all birds that are likely to be seen along the trail route should be compiled for the website/app, but should also be modified so that it can be produced as a print item, either easily downloadable from the website or printed in bulk to be distributed at various locations (perhaps free to attendees of HIFB and with a charge to recover printing costs and earn a small profit if sold in shops). A brief overview of the geographic diversity of the trail and its impact on bird life should be included, as well as a short introduction to the cultural and conservation subthemes with a suggestion to explore the trail locations and their individual stories further.

Target Audience: Residents and Tourists

Thematic Emphasis: All subthemes

Objective(s): 60% of surveyed island residents will be able to correctly identify species as native or nonnative.

Distribution Strategy: After a template is prepared by a contractor, DOFAW staff will maintain the website, accessed through their Trails.org URL.

Priority: High

Cost: \$7500 (includes design and limited printing)

3.4.3.5 Clothing items

Description: T-shirts, jackets, and hats (bucket hats, ball caps, and visors) designed with the logo, an attractive image and/or thoughtfully worded thematic message serve two purposes. They can be sold at a profit and used to raise funds that will support other projects, but perhaps more importantly, they create awareness of the Trail and its central theme, wherever the owner happens to wear them.

Target Audience: Residents, tourists, avids

Thematic Emphasis: All

Objective(s): Annual increase in participation at HIFB; 10% of hikers identify birding as a primary reason for using trail hotspots; 20% of surveyed island visitors identify birding as a reason for their visit.

Distribution Strategy: Sold at HIFB, and online through HIFB website.

Priority: High

Cost: Dependent on inventory desired. \$1000 provides approximately 100 items.

3.4.3.6 K-3rd Grade Curriculum

Description: This curriculum unit should contain enough activities and information for teachers to feel confident in using basic environmental concepts related to the island birds and geography as a vehicle to teach simple age-appropriate skills in the areas of letter recognition, reading, math, and science.

Target Audience: Students

Thematic Emphasis: Hawai'i Island's unique environment supports a unique population of birds.

Objective(s): 90% of island school children will visit a hotspot along the HIBT before they enter high school.

Distribution Strategy: Downloadable information and activity sheets made available on the trail website.

Priority: Medium

Cost: \$5000

3.4.3.7 Grades 4-8 Curriculum

Description: Building on and not repeating the K-3 curriculum, this curriculum unit should contain enough activities and information for teachers to feel confident in using basic environmental concepts related to the island birds and cultural relationships with human inhabitants of the island over time as a vehicle to teach simple age-appropriate skills in the areas of writing, reading, math, and science. An age-appropriate bibliography of related reference material should be included. This curriculum unit should include opportunities for guest speakers in the classroom or field visits to one or more of the hotspots along the Coast to Coast route.

Target Audience: Students

Thematic Emphasis: Hawai'i's birds connect its people to the natural world around them.

Objective(s): 90% of island school children will visit a hotspot along the HIBT before they enter high school.

Distribution Strategy: Downloadable information and activity sheets made available on the trail website.

Priority: Medium

Cost: \$5000

3.4.3.8 Grades 9-12 Curriculum

Description: Building on and not repeating the 4-8 curriculum, this curriculum unit should contain enough activities and information for teachers to feel confident in using basic environmental concepts related to the island birds and conservation issues and solutions as a vehicle to teach simple age-appropriate skills in the areas of writing, reading, math, science, and community involvement. A bibliography of related reference material should be included.

This curriculum unit should include opportunities for guest speakers in the classroom or field visits to one or more of the hotspots along the Coast to Coast route.

Target Audience: Students

Thematic Emphasis: A commitment to conservation can help to overcome a legacy of environmental challenges.

Objective(s): 60% of high school students will participate in a HIBT activity during their high school years.

Distribution Strategy: Downloadable from the website.

Priority: Medium

Cost: \$5000

3.4.3.9 Interpretive Overview Trailhead Sign

Location(s): Each location along the trail should have an overview sign to help with orientation to the trail route.

Description: The signs should be designed so that they can be mounted to existing frames or buildings wherever possible. A Saddle Road sign will need its own mounting near the junction of Highway 190 and Old Saddle Road. Each sign should have three sections: map of the trail route with that location highlighted (you are here) along with the birds likely to be seen there; ethical birding behavior; and an interpretive message appropriate to that location (highlighting the central theme and one of the subthemes through selected stories). In some cases, permission from partners may be necessary for mounting in the most appropriate location.

Target Audience: All segments

Thematic Emphasis: All subthemes

Objective(s): 60% of HIBT trail users will be observed using boot brush stations when provided; No evidence of depreciative behavior observed or caused by birders (vandalism, litter, social trails, trespass); Annual increase in participation at HIFB.

Priority: Medium

Cost: \$40,000

3.4.3.10 Audio Tour CD/Podcast

Description: An audio tour of the route should include a collection of local stories, primarily about the birds, but also about some of the geological features seen along the route (preferably couched in their relationship to the birds). The script should include audible bird sounds to allow the listener to begin to identify birds by their calls since so many birds can be difficult to spot visually. The tour should be programmed in a way that listeners can easily find stories and sounds that relate to specific locations along the route, either as segments of a CD or as a series of podcasts, however in either format, the idea would be to have something the listener will have access to as they are driving between locations rather than something that requires the listener to remain in their vehicle once reaching the location.

Target Audience: Residents and tourists

Thematic Emphasis: All

Objective(s): 60% of surveyed island residents will be able to correctly identify species as native or nonnative; Annual increase in participation at HIFB.

Distribution Strategy: CD - sold at local retail outlets and special events (HIFB); Podcast - accessible through website or app

Priority: Low

Cost: \$10,000

3.4.3.11 Assorted Sales Items

Description: A number of sales items can be developed (books, jigsaw puzzles, children's books, coloring books, plush toy birds, stickers, posters, etc.). These items can generate additional revenue and promote messages related to the trail's subthemes, however, it should be noted that a number of sales items are already available on the island that, while not directly associated with the Trail, serve to identify and promote birds and habitats of Hawai'i Island. Numerous field guides, videos, and other products are available at retail outlets including the gift shop at Kaloko-Honokohau National Historical Park and Hawai'i Forest & Trail headquarters. Sales items require initial production costs as well as storage space for keeping an inventory on hand and staff or volunteers to provide order fulfillment. For these reasons, sales items should be carefully considered prior to development and only those items for which suitable outlets can be found and which do not duplicate items already available should be attempted.

Target Audience: Tourists

Thematic Emphasis: All subthemes

Objective(s): 20% of surveyed island visitors identify birding as a reason for their visit.

Distribution Strategy: One alternative may be to fund an individual or organization to produce the item(s) with the understanding that a portion of the proceeds from sales would be donated directly to HIFB funds, so that the individual writer or artist retains the copyright and is responsible for any product distribution, but there is a return on the investment by HIFB.

Priority: Low

Cost: Variable depending on product

3.4.4 Hotspot-specific Media Recommendations

The recommendations in this section are items that have particular relevance at one or more locations along the Trail route. Cost estimates for planning, design, and fabrication/production costs assume that the work will be contracted out. They are preliminary estimates only and do not necessarily include shipping or installation costs where applicable. Firm bids will need to be secured for all items during design development as choices of materials and sources will influence final costs.

3.4.4.1 Volunteer Trail Guides Program

Location(s): Palila Discovery Trail, Pu‘u Huluhulu, Pu‘u ‘Ō‘ō, Kaūmana, Kalauna Manu Nature Trail

Description: A corps of volunteers who are knowledgeable about birds and birding should be recruited. One function of such a group would be to provide regularly scheduled programs/hikes at no cost to encourage local residents to take part. Volunteers could also take part in unobtrusive observation or surveys of trail users to gather data about trail use as well as any conservation activities. Volunteer training and recognition will be important to the success of this program. Volunteers should be provided with trail logo hats and shirts as well as any other supplies they may need during their shift.

Target Audience: Residents, avids

Thematic Emphasis: All subthemes

Objective(s): 60% of HIBT trail users will be observed using boot brush stations when provided; No evidence of depreciative behavior observed or caused by birders (vandalism, litter, social trails, trespass).

Priority: Medium

Cost: \$3000 volunteer training in interpretive techniques; \$1000 annual cost for supplies, shirts, hats, etc.

3.4.4.2 Murals on Hunter/Hiker Check-in Stations

Location(s): Pu‘u Huluhulu, Palila Discovery Trail (Kilohana Check-in Station), Halepepe Trail (Pu‘u Wa‘awa‘a)

Description: The hunter/hiker check-in stations at forest reserves could provide an “interpretive surface” with the simple addition of paintings of birds on the interior or exterior walls. This would help visitors to the hotspot quickly identify birds that might be seen at that location and encourage people to take better care of the facilities, as studies show that muralized surfaces are less prone to vandalism than signs or blank surfaces. The mural does not need to be elaborate, but simply a representation of individual birds appropriate to the area.

Target Audience: residents, tourists, avids

Thematic Emphasis: Hawai‘i Island’s unique environment supports a unique population of birds.

Objective(s): No evidence of depreciative behavior observed or caused by birders (vandalism, litter, social trails, trespass); 60% of surveyed island residents will be able to correctly identify species as native or nonnative.

Priority: Medium

Cost: \$500 per station

3.4.4.3 Interpretive Sign

Location(s): Kaloko-Honokōhau National Historical Park

Description: An interpretive sign about the spirit of the coastal birds could be added to the series of the spirit of Kaloko-Honokōhau signs that are currently in place along the trail to the fishpond. This sign would need to be designed

according to National Park Service guidelines and fit with the existing approach to this thematic thread at the park.

Target Audience: tourists

Thematic Emphasis: Hawai'i's birds connect its people to the natural world around them.

Objective(s): Annual increase in participation at HIFB; No evidence of depreciative behavior observed or caused by birders (vandalism, litter, social trails, trespass)

Priority: Medium

Cost: \$2500

3.4.4.5 Interpretive Exhibit

Location(s): NELHA Visitor Center

Description: If allowed by NELHA, an interpretive exhibit could be displayed at the visitor center, providing visible storage for this exhibit that enhances the experience at the Visitor Center and connects visitors to the viewing area at Keāhole Point. This exhibit should be professionally designed in a way that would allow it to be easily transported to other locations on an as-needed basis. It should contain interactive elements that encourage people to match birds to their habitats or spot field marks that could aid in identification of species. The idea would be to introduce people to birdwatching, provide information about the trail route, and encourage participation in habitat conservation activities. The exhibit case should provide a stand for the exhibit, but also break down into a box that stores exhibit components for transport. Lockable wheels would allow the box to be easily moved so that it could travel to schools, HIFB, and special events as necessary.

Target Audience: residents, students

Thematic Emphasis:

Objective(s): 60% of HIBT trail users will be observed using boot brush stations when provided; No evidence of depreciative behavior observed or caused by birders (vandalism, litter, social trails, trespass); Annual increase in participation at HIFB.

Priority: Medium

Cost: \$10,000

3.4.4.5 Interpretive Placemats or Table Cards

Location(s): Honokōhau Harbor House Restaurant, Seaside Restaurant at Lokowaka Pond

Description: If desired by these restaurants that bookend the trail route, placemats or standup table cards can be designed and provided to the restaurant for use. These cards or placemats can have bird photos or artwork, announcements of the HIFB, trivia questions about the birds and locations along the trail route, or interpretive tidbits about any of the myriad stories related to the central theme, to provoke interest in visiting the rest of the trail route.

Target Audience: residents, tourists

Thematic Emphasis: All subthemes

Objective(s): 20% of surveyed island visitors identify birding as a reason for their visit; Annual increase in participation at HIFB; No evidence of depreciative behavior observed or caused by birders (vandalism, litter, social trails, trespass).

Priority: Medium

Cost: \$2500

3.4.5 Future Construction Projects

These projects would provide opportunities for further interpretation at these locations, but require significant infrastructure considerations. They are included in this plan to initiate further discussion about whether they may be appropriate if resources become available for the necessary planning, design, and construction in the future.

3.4.5.1 Canopy Walk

Location(s): 'O'oma Trail

Description: A canopy walk that allows visitors to move from the trail on grade through the tops of the trees would allow a completely unique viewing experience on the west side of the island, as the island's existing ziplines and canopy walks are only found on the east side.

Considerations: Access to the Forest Reserve and the suggested location for the canopy walk is from Makahi Street, which is embedded in a residential area with little parking for trail users. This trail location appears to be currently used primarily by residents, but with the addition of a canopy walk, it would become a tourist attraction that would likely create overcrowding in available parking. Cultural remnants may be found in this area as well, which would require mitigation. Finally, open access to the Forest Reserve (current situation) means the canopy walk would create an attractive nuisance from a liability standpoint. None of these considerations are insurmountable, but thoughtful planning beyond the scope of this contract will be required to determine the feasibility of this project.

Priority: Low

3.4.5.2 Viewing Platform

Location(s): Keāhole Point

Description: A gazebo type structure (covered platform) with railings would offer a specific, safe location from which people could view ocean and coastal birds as well as marine mammals. The structure and railings would provide an opportunity for display panels to interpret what can be seen from this spot as well as the need for conservation activities to protect ocean birds and marine mammals. A permanently mounted spotting scope or coin-operated binocular unit could also be added.

Considerations: The addition of this platform, accessed through the NELHA campus, will likely create some increase in traffic through the campus, which may or may not be desirable. The platform could add an additional outdoor

classroom space for the West Hawai'i Explorations Academy, which may create conflict with unscheduled visitors. If permanent mounts of spotting scopes or binoculars are provided, there is potential for vandalism.

Priority: Low

3.6 Summary of Projects, Implementation Costs, and Potential Partners

Each of the projects listed above could be completed in a number of ways. In some cases, DOFAW staff may be able to perform part or all of the required tasks. In other cases, contractors should be hired to perform part or all of the required tasks (not listed as partners). Cost estimates generally include planning, design, and fabrication costs as though the entire project would be contracted.

Priority	Project	Cost	Potential Partner(s)
High	HIBT Logo	\$1500	HIFB
High	Website	\$10,000	HIFB
High	App	\$10,000	HIFB, Hawai'i Audubon Society
High	Trail Route Markers	\$15,000	HIFB, State DOT, County of Hawai'i
High	Printed Checklist	\$7500	HIFB
High	Clothing Items	\$1000	HIFB
Medium	K-3rd Grade Curriculum	\$5000	HIFB, Hawai'i Environmental Education Alliance
Medium	4-6 Grade Curriculum	\$5000	HIFB, Hawai'i Environmental Education Alliance
Medium	9-12 Grade Curriculum	\$5000	HIFB, Hawai'i Environmental Education Alliance
Medium	Volunteer Trail Guides Program	\$4000	HIFB, Mauna Kea Forest Restoration Project
Medium	Murals on Hunter/Hiker Check-in Stations	\$2500	HIFB
Medium	Interpretive Sign at Kaloko-Honokohau NHP	\$2500	HIFB, Kaloko-Honokohau National Park
Medium	Portable Interpretive Exhibit	\$10,000	HIFB
Low	Interpretive Placemats/Table Cards	\$2500	HIFB, Seaside Restaurant
Low	Audio Tour CD/Podcast	\$10,000	HIFB
Low	Assorted Sales Items	Variable	HIFB
Low	Canopy Walk	Undetermi	HIFB

		ned	
Low	Keahole Point Viewing Platform	Undetermined	HIFB
Variable	Individual Research Projects	Variable	HIFB, Mauna Kea Forest Restoration Project, Hawai‘i Visitors Bureau
Variable	Individual Restoration Projects	Variable	HIFB, Mauna Kea Forest Restoration Project

3.7 Other Potential Partners

Logical partners who may be willing to advertise, fund or implement part or all of the projects but are not necessarily associated with a specific project listed above may also include:

- County Roads
- County Parks
- State Parks
- Parker Ranch
- Ala Kahakai National Historic Trail
- Three Mountain Alliance
- Mauna Kea Watershed Alliance
- Various ecotourism companies, i.e., Hawai‘i Forest and Trail [note: commercial activities are only permitted on certain sites with permit]
- American Birding Association
- Hawai‘i Audubon Society
- Sierra Club Hawai‘i
- The Nature Conservancy
- The Wildlife Society, Hawai‘i Chapter

3.8 Recommended Action Plan

Implementation of this plan is suggested over a five-year period from 2017-2021. Although there are certainly many details associated with each project that are not listed here, the major milestones for making progress each year are suggested. Further, it will be necessary for future project managers to assign specific individuals to complete each task to ensure reasonable accountability for completion.

Each year, project priorities should be reviewed and a project or projects selected for funding in the following year, giving the HIFB committee a target for fundraising. For example, at the 2016 event, the committee was able to say that excess funds would be spent on a master plan and website. Having some idea what project will be funded next helps HIFB to budget the event appropriately from year to year. A recommended annual plan is provided

below, however if resources allow, acceleration of completion of projects is highly recommended.

Year One (2017)

- Review project priorities
- Complete logo, website and any other high priority items that can be funded
- Select specific project(s) to be funded for Year Two

Year Two (2018)

- Review and revise project priorities as needed
- Add new projects to plan if appropriate
- Complete trail route markers and any other high or medium priority items that can be funded
- Initiate trail volunteer guide program
- Initiate user surveys and trail condition research projects
- Select specific project(s) to be funded for Year Three

Year Three (2019)

- Review and revise project priorities as needed
- Add new projects to plan if appropriate
- Complete app and any other high or medium priority items that can be funded
- Create habitat restoration and/or research opportunities
- Select specific project(s) to be funded for Year Four

Year Four (2020)

- Review and revise project priorities as needed
- Add new projects to plan if appropriate
- Complete curriculum units and any other medium or low priority items that can be funded
- Revisit user surveys and trail condition research projects
- Create habitat restoration and/or research opportunities
- Select specific project(s) to be funded for Year Five

Year Five (2021)

- Review and revise interpretive plan to report on research findings, expand trail routes (if desired), and identify new projects
- Complete any remaining high, medium, or low priority projects

Appendix A – 2016 Planning Charette Participants

Lisa Brochu, Heartfelt Associates, Facilitator

Debbie Anderson, Destination Marketing (Hawai‘i Island Festival of Birds)

Paul Banko, US Geological Survey

Jackson Bauer, DLNR, Division of Forestry and Wildlife), Nā Ala Hele Trails and Access Program

Linda Elliott, Hawai‘i Wildlife Center

Chris Farmer, American Bird Conservancy

Nahua Guilloz, Parker Ranch

Mel Johanssen, The Nature Conservancy

Tiana Lackey, Pohakuloa Training Area

Tim Merriman, Heartfelt Associates (Hawai‘i Island Festival of Birds)

Rae Okawa, Hawai‘i Wildlife Center

Rob Pacheco, Hawai‘i Forest & Trail (Hawai‘i Island Festival of Birds)

Sharon Scott, Birder

Mike Scott, Birder (Retired US Geological Survey and US Fish & Wildlife Service)

Rob Shallenberger, US Fish & Wildlife Service

Kanalu Sproat, DLNR (Division of Forestry and Wildlife), West Hawai‘i Wildlife Section

Joey Mello, DLNR (Division of Forestry and Wildlife), East Hawai‘i Wildlife Section